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EXAMINER

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ART UNIT	PAPER NUMBER
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2177

DATE MAILED: 03/31/2003

26

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/384,088

Applicant(s)

MURRAY ET AL.

Examiner

Srirama Channavajjala

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32,37 and 40-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32,37 and 40-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 27 January 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

**Response to Amendment**

1. Examiner acknowledges applicant's amendment filed on 1/27/2003, paper no.24.
2. Claims 33-36,38-39 have been cancelled, paper no. # 24.
3. Claims 40-43 have been added, paper no. # 24.
4. Claims 1-2,9-10,17-18,25-26 and 37 have been amended, paper no. # 24.
5. In view of applicant's amendment to Claims 2,10,18,26, the rejection under 35 USC 112, second paragraph as set forth in paper no. # 21 is hereby withdrawn.
6. The request filed on August 28, 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on Application No. 09/384,088 is acceptable and a CPA has been established, paper no. # 19.
7. Examiner acknowledges applicant's Preliminary Amendment and response to the previous office action filed on 8/28/2002, paper no. # 20.
8. Claims 1,9,17,25, and 33-36 have been amended, paper no. # 20.
9. Claims 37-39 have been added, paper no. # 20.
10. Examiner acknowledges applicant's Amendment filed on 4/10/2002, paper no.12.
11. Examiner acknowledges applicant's supplemental response to paper no.# 9 filed on 4/10/2002, paper no.15
12. Claims 33-36 have been added, paper no. # 12.
13. Claims 1-32,37,40-43 are pending in this application.

***Drawings***

14. The formal Drawing filed on 1/27/2003 are approved by the Draftsperson under 37CFR 1.84 or 1.152.

15. Examiner approved proposed drawing fig 5-6, a copy of approved drawings herewith enclosed with this office action, formal drawings are required in response to this office action, paper no. # 26.

16. Examiner acknowledges applicant's formal drawings filed on 4/10/2002, paper no. # 13

17. Examiner approved proposed drawing corrections to fig 1, a copy of approved drawing herewith enclosed, paper no. # 16, formal drawing(s) are required in response to this office action, paper no. # 16.

***Priority***

18. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 119(e) based on the Provisional Application Serial No. 60/114,574, filed on 12/31/1998.

***Information Disclosure Statement***

19. The supplemental information disclosure statement filed on 7/10/2002, paper no. # 17 has been considered and a copy was enclosed with this office action, paper no. # 21.

20. The information disclosure statement filed on 8/27/1999, paper no. # 5 has been considered and a copy was enclosed with this office action, paper no. # 9.

21. The information disclosure statement filed on 4/10/2002, paper no. # 14 has been considered and a copy was enclosed with this office action, paper no. # 16.

### ***Specification***

The disclosure is objected to because of the following informalities:

22. Examiner acknowledges applicant provided the citation to the Cross-Referenced applications, however, applicant required including updating their status in response to this office action, paper no. # 26

### ***Double Patenting***

23. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

**A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory**

**double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).**

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

24. Claims 1, 9, 17, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,6,11,16 of co pending Application No. **09/384,089**, Although the conflicting claims are not identical, they are not patentably distinct from each other because in the present application Independent Claims 1, 9, 17, and 25 are accepting an input of the characters of the message; evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message; and generating a search index based on the results of the evaluation of the message and candidate character sets, while co-pending Application No. **09/384,089** independent Claims 1,6,11,16 are evaluating the characters of the message to built a linked list of available system fonts matching the characters, outputting the message by traversing the linked list of available system fonts for each portion of the multipart message. **it is noted that evaluating the message by comparing the characters of the message is same as evaluating the characters of the message with a linked list or with the available or predetermed list that matching the characters, or vice versa may be**

**used** or expanded for further generating fine or sophisticated search index in a computer system. Accordingly, the instant Claims are very broad and within the scope of the Claims of the Application No. 09/**384,089**.

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated in claims 1,6,11,16 of the co-pending application since the omission and addition of the cited limitations would have not changed the process according to which the method of evaluating characters in a message to generate a search index information. Specifically, the ordinary skilled artisan would have been motivated to modify claim 1 of the cited co-pending application by replacing evaluating the characters of the message to build a linked list with the evaluating the message by comparing the characters of the message to a predetermined set by generating a search index. The cited substitute elements would not interfere with the functionality of the steps previously claimed and would perform the same function of evaluating characters in a message to generate a search index or linked list in a computer system. In re Karlson, 136 USPQ 184 (CCPA 1963)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

25. Claims 1, 9, 17, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,6,11,16 of co pending Application No. **09/384,542**, Although the conflicting claims are not identical, they are not patentably distinct from each other because in the present application Independent Claims 1, 9, 17, and 25 are accepting an input of the characters of the message; evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message; and generating a search index based on the results of the evaluation of the message and candidate character sets, while co-pending Application No. **09/384,542** independent Claims 1,6,11,16 are evaluating the characters of the message to build a linked list of available system fonts matching the characters; and outputting the message by traversing the linked list of available system fonts. **It is noted that evaluating the message by comparing the characters of the message in a search index or index is same as evaluating the characters of the message with a linked list or with the available or predetermed list that matching the characters, because each item in the list contains a pointer to the next or preceding character(s) or vice versa may be used** or expanded for further generating fine or sophisticated search index in a computer system.

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated in claims



1,6,11,16 of the co-pending application since the omission and addition of the cited limitations would have not changed the process according to which the method of evaluating characters in a message to generate a search index information.

Specifically, the ordinary skilled artisan would have been motivated to modify claim 1 of the cited co-pending application by replacing evaluating the characters of the message to build a linked list with the evaluating the message by comparing the characters of the message to a predetermined set by generating a search index. The cited substitute elements would not interfere with the functionality of the steps previously claimed and would perform the same function of evaluating characters in a message to generate a search index or linked list in a computer system. In re Karlson, 136 USPQ 184 (CCPA 1963)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

26. Claims 1, 9, 17, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,6,11,16 of co pending Application No. **09/384,541**, Although the conflicting claims are not identical, they are not patentably distinct from each other because in the present application Independent Claims 1, 9, 17, and 25 are accepting an input of the characters of the message; evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message; and

generating a search index based on the results of the evaluation of the message and candidate character sets, while co-pending Application No. **09/384,541** independent Claims 1,6,11,16 are evaluating the characters of the message to build a linked list of available system fonts matching the characters; and outputting the message by traversing the linked list of available system fonts. **It is noted that evaluating the message by comparing the characters of the message in a search index or index is same as evaluating the characters of the message with a linked list or with the available or predetermined list that matching the characters, because each item in the list contains a pointer to the next or preceding character(s) or vice versa may be used** or expanded for further generating fine or sophisticated search index in a computer system.

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated in claims 1,6,11,16 of the co-pending application since the omission and addition of the cited limitations would have not changed the process according to which the method of evaluating characters in a message to generate a search index information.

Specifically, the ordinary skilled artisan would have been motivated to modify claim 1 of the cited co-pending application by replacing evaluating the characters of the message to build a linked list with the evaluating the message by comparing the characters of the message to a predetermined set by generating a search index. The cited substitute elements would not interfere with the functionality of the steps previously claimed and would perform the same function of evaluating characters in a message to generate a

search index or linked list in a computer system. In re Karlson, 136 USPQ 184 (CCPA 1963)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

27. Claims 1, 9, 17, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,6,11,16 of co pending Application No. **09/384,538**, Although the conflicting claims are not identical, they are not patentably distinct from each other because in the present application Independent Claims 1, 9, 17, and 25 are accepting an input of the characters of the message; evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message; and generating a search index based on the results of the evaluation of the message and candidate character sets, while co-pending Application No. **09/384,538** independent Claims 1,6,11,16 are evaluating the characters of the message to build a linked list of available system fonts matching the characters; and outputting the message by traversing the linked list of available system fonts. **It is noted that evaluating the message by comparing the characters of the message in a search index or index is same as evaluating the characters of the message with a linked list or with the available or predetermed list that matching the characters, because each item in the list contains a pointer to the next or preceding character(s) or vice versa may**

**be used** or expanded for further generating fine or sophisticated search index in a computer system.

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated in claims 1,6,11,16 of the co-pending application since the omission and addition of the cited limitations would have not changed the process according to which the method of evaluating characters in a message to generate a search index information. Specifically, the ordinary skilled artisan would have been motivated to modify claim 1 of the cited co-pending application by replacing evaluating the characters of the message to build a linked list with the evaluating the message by comparing the characters of the message to a predetermined set by generating a search index. The cited substitute elements would not interfere with the functionality of the steps previously claimed and would perform the same function of evaluating characters in a message to generate a search index or linked list in a computer system. In re Karlson, 136 USPQ 184 (CCPA 1963)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

28. Claims 1, 9, 17, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,6,11,16 of co pending Application No. **09/384,443**, Although the conflicting claims are

not identical, they are not patentably distinct from each other because in the present application Independent Claims 1, 9, 17, and 25 are accepting an input of the characters of the message; evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message; and generating a search index based on the results of the evaluation of the message and candidate character sets, while co-pending Application No. **09/384,443** independent Claims 1,6,11,16 are accepting an input of the characters of the message; and evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message. **It is noted that limitation 'generating a search index based on the results of the evaluation of the message and candidate character sets are omitted in the co-pending application.**

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated in claims 1,6,11,16 of the co-pending application since the omission and addition of the cited limitations would have not changed the process according to which the method of evaluating characters in a message to generate search index information. Specifically, the ordinary skilled artisan would have been motivated to modify claim 1 of the cited co-pending application by replacing or omitting the limitation generating a search index based on the results that would have allowed to implement the evaluating characters in

a message merely comparing the predetermined set of candidate character sets for match between character sets and message. The cited adding or omission of elements would not interfere with the functionality of the steps previously claimed and would perform the same function of evaluating characters in a message to generate a search index in a computer system. In re Karlson, 136 USPQ 184 (CCPA 1963)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

29. Claims 1, 9, 17, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,10,19,28 of co pending Application No. **09/384,442**. Although the conflicting claims are not identical, they are not patentably distinct from each other because in the present application Independent Claims 1, 9, 17, and 25 are accepting an input of the characters of the message; evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message; and generating a search index based on the results of the evaluation of the message and candidate character sets, while co-pending Application No. **09/384,442** independent Claims 1,10,19,28 are accepting an input of the characters of the message; and evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and a portion of the message. **It is**

**noted that limitation 'generating a search index based on the results of the evaluation of the message and candidate character sets are omitted in the co-pending application.**

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated in claims 1,6,11,16 of the co-pending application since the omission and addition of the cited limitations would have not changed the process according to which the method of evaluating characters in a message to generate a search index information.

Specifically, the ordinary skilled artisan would have been motivated to modify claim 1 of the cited co-pending application by replacing or omitting or adding the limitation generating a search index based on the results that would have allowed to implement the evaluating characters in a message merely comparing the predetermined set of candidate character sets for match between character sets and portion(s) of the message. The cited adding or omission of elements would not interfere with the functionality of the steps previously claimed and would perform the same function of evaluating characters in a message to generate a search index in a computer system. In re Karlson, 136 USPQ 184 (CCPA 1963)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

30. Claims 1, 9, 17, and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,8,15,22 of co pending Application No. **09/384,371**, Although the conflicting claims are not identical, they are not patentably distinct from each other because in the present application Independent Claims 1, 9, 17, and 25 are accepting an input of the characters of the message; evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message; and generating a search index based on the results of the evaluation of the message and candidate character sets, while co-pending Application No. **09/384,371** independent Claims 1,8,15,22 are accepting an input of the characters of the message; and evaluating the message by comparing the characters of the message to a predetermined set of candidate character sets to determine a match between the predetermined set of candidate character sets and the message. **It is noted that limitation 'generating a search index based on the results of the evaluation of the message and candidate character sets replaced with selecting a best match between the message and the candidate character sets in the co-pending application.**

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated in claims 1,6,11,16 of the co-pending application since the omission and addition of the cited



limitations would have not changed the process according to which the method of evaluating characters in a message to generate a search index information.

Specifically, the ordinary skilled artisan would have been motivated to modify claim 1 of the cited co-pending application by replacing or omitting the limitation generating a search index based on the results that would have allowed to implement the evaluating characters in a message merely comparing the predetermined set of candidate character sets for match between character sets and message further would have resulted in best match between the message. The cited adding or omission or replacing of elements would not interfere with the functionality of the steps previously claimed and would perform the same function of evaluating characters in a message to generate a search index for match between the message and the character sets in a computer system. In re Karlson, 136 USPQ 184 (CCPA 1963)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

31. Claims 1- 2, 4-10, 12-18, 20-26, 28-32, are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateno, US Patent No. 5778400 in view of Halstead, Jr. et al. [hereafter Halstead], US Patent No. 5946648.

32. As to Claims 1,9,17, 25, Tateno details a system which including 'evaluating characters in an inputted search string to generate a search index' [col 5, line 4-23, col 5, line 55-57, Abstract, fig 1], examiner interpreting characters in an inputted search string corresponds to Tateno's text or word(s), search index corresponds to fig 1,

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element 14, 'accepting an input of the characters of the search string' [col 5, line 24-26, col 6, line 60-67, fig 1], 'characters can be represented in any of a plurality of character sets corresponding to an undetermined language' [col 5, line 4-15, col 5, line 39-41, line 64-67, col 6, line 1-4, col 11, line 5-8], characters of search string corresponds to word(s) or text because text comprises sentences, words, phrases;' generating the search index by assigning character sets to a code page wherein the character sets are assigned based on the results of the evaluation of the search string and candidate character sets that correspond to the characters of the search string' [col 8, line 18-36, fig 1-3], examiner interpreting search index corresponds to Tateno's fig 1, element 14, character sets corresponds to tags or words of a structured document as detailed in col 8, line 23-24, assigning character sets to a code page corresponds to tagging documents for desired word or character set in a text using the tags as reference because search index comprising words as detailed in col 4, line 66-67, col 5, col 6, line 1-3. fig 2, col 8, line 59-67. It is, however, noted that Tateno does not specifically detail the claimed limitation 'evaluating the search string by comparing each of the characters of the search string to a plurality of predetermined set of candidate sets'. On the other hand, Halstead details a system which including 'evaluating the search string by comparing each of the characters of the search string to a plurality of predetermined set of candidate sets'[col 6, line 54-63, col 7, line 48-61, col 9, line 40-50, col 10, line 20-40, line 63-67, col 12, line 65-67], comparing the characters of the search string corresponds to Halstead's matching of stem characters in the prefix analysis as

detailed in fig 18-19, predetermined set of candidate character sets corresponds to prefix morphology file, fig 18, element 132.

It would have been obvious one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Halstead into searching through a tagged document for the location of a desired word in text using the tags as reference units for search and retrieval using search index system of Tateno because they are both directed to storing and identifying text strings [see Halstead Abstract, fig 3; Tateno Abstract, fig 3], while Tateno specifically teaches search index as detailed in fig 3, element 4. One of ordinary skill in the art at the time of applicant's invention would have been motivated to modify Tateno's reference, more specifically modify fig 4 to incorporate templates fig 14, element 98 matching characters connected to the matching, further forming a look up table containing predetermined characters because that would have allowed users of Tateno's search index system to control which relative combination of sets satisfies the evaluating the search string criteria, bringing the advantages of reduce dependency on static dictionaries and to avoid the access overhead and unknown word identification problems as suggested by Halstead [see col 3, line 55 65].

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33. As to Claims 2,10,18, 26, Halstead teaches a system which including 'comparing each character of the search string to an entry for each of the candidate character sets in a character table bank' [see fig 14-15, col 9, line 51-60, line 67, col 10, line 1-3, line 26-40], examiner interpreting character table bank corresponds to Halstead's look-up table as detailed in fig 14, element 90.

34. As to Claims 4,12,20, 28, Halstead details a system which including 'universal code is Unicode' [col 8, line 15-21], examiner interpreting Unicode corresponds to Halstead's 16-bit Unicode.

35. As to Claims 5,13,21, 29, Halstead details a system which including 'total number of characters matched to each of the candidate character sets' [col 9, line 51-67, col 10, line 1-3, fig 15].

36. As to Claims 6,14,22, 30, Halstead details a system which including 'selecting a best match based upon the total number of characters matched to each of the candidate character sets' [col 10, line 63-67, col 11, line 1-7].

37. As to Claims 7,15,23, 31, Tateno details a system which including 'evaluating the characters of a query string' [fig 1, col 5, line 18-23].

38. As to Claims 8,16,24, 32, Tateno details a system which including 'performing a search of the query string against search indices' [fig 1, 3,5,7,9, col 9, line 20-25], on the other hand Halstead teaches 'character set match' [see fig 15, col 12, line 65-67, col 13, line 56-61].

39. Claims 3,11,19,27, 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateno, US Patent No. 5778400, Halstead, Jr. et al. [hereafter Halstead], US Patent No. 5946648 as applied to claims 1,9,17,25 above, and further in view of Houchin et al., [hereafter Houchin], US Patent No. 6321192.

40. As to Claims 3,11,19, 27, Halstead teaches a system which including universal code for that character and an indicator in the character table bank indicating whether each of the candidate character sets contains that character' [col 8, line 19-29], however, both Tateno and Halstead do not specifically teach 'performing a logical mask between a universal code'. On the other hand, Houchin details a system which including 'performing a logical mask between a universal code' [see fig 3, fig 5, col 6, line 16-32].

It would have been obvious one of the ordinary skill in the art the time of the applicant's invention to combine the concepts taught by Houchin with the system of Tateno, Halstead because masking used to choose one of several output sequences based on the flag(s) condition, further mask to form the bit mask used to enable or disable various required conditions as detailed in Halstead [see col 6, line 21-23].

41. Claims 37,40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateno, US Patent No. 5778400, Halstead, Jr. et al. [hereafter Halstead], US Patent No. 5946648 in view of Marshall, WO 92/15067.

42. As to Claim 37, 40-43, Tateno teaches a system which including 'accepting an input of the characters of the search string' [col 5, line 24-26, col 6, line 60-67, fig 1], 'characters can be represented in any of a plurality of character sets corresponding to an undetermined language' [col 5, line 4-15, col 5, line 39-41, line 64-67, col 6, line 1-4, col 11, line 5-8], characters of search string corresponds to word(s) or text because text comprises sentences, words, phrases; Tateno teaches 'search string to one or more character sets of a character bank by parsing the characters of the search string and identifying the one or more character sets of the character bank that express each of the characters of the search string' [col 7, line 59-67, col 8, line 1-4], 'generating a search index based on the results of evaluation of the search string and the plurality of pre-determined candidate character set' col 8, line 18-36, fig 1-3], examiner interpreting search index corresponds to Tateno's fig 1, element 14, character sets corresponds to tags or words of a structured document as detailed in col 8, line 23-24. It is however, noted that Tateno does not specifically teaches 'evaluating the search string by comparing each of the characters of search string to a plurality of pre-determined candidate character sets'. On the other hand, Halstead teaches 'evaluating the search string by comparing each of the characters of search string to a plurality of pre-determined candidate character sets' [col 6, line 54-63, col 7, line 48-61, col 9, line 40-

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50, col 10, line 20-40, line 63-67, col 12, line 65-67], comparing the characters of the search string corresponds to Halstead's matching of stem characters in the prefix analysis as detailed in fig 18-19, predetermined set of candidate character sets corresponds to prefix morphology file, fig 18, element 132. It is also noted that both Tateno and Halstead do not specifically teach 'character set indicators of a bit mask to determine a match between each of the character set'. On the other hand Marshall teaches a system which including 'character set indicators of a bit mask to determine a match between each of the character set'[see abstract, page 14, line 14-31, page 16, line 18-30, fig 3-4], character set indicators corresponds to character associated with specific pattern and position as detailed in fig 2-3.

It would have been obvious one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Marshall into storing searching, retrieving text of a structured document with tags of Tateno, identification of words in Japanese text by a computer system of Halstead, et al because all of them are directed to searching methods, for example, Marshall is directed to substring searching method, more specifically Marshall is directed to locating, searching substring that matches a given character pattern of one or more characters, that further allows to check pattern or mismatch between pattern and corresponding substring. It is also noted that Marshall teaches substring search uses shift masks that corresponds to various character patterns [see Abstract, fig 2-4]. Halstead, Tateno are directed to storing and identifying



text strings [see Halstead Abstract, fig 3; Tateno Abstract, fig 3], specifically Tateno teaches search index as detailed in fig 3, element 4.

One of ordinary skill in the art at the time of applicant's invention would have been motivated to modify for example Tateno's reference, more specifically modify fig 4 to incorporate templates fig 14, element 98 matching characters connected to the matching, further forming a look up table containing predetermined characters, and comparing pre-selected character set with possible pattern occurrence, pattern position for various shift mask(s) for character of pattern because that would have allowed users of Tateno, Halstead search index system to control which relative combination of character sets that satisfies bit mask to determine match between character pattern occurrences from the mask table, bringing the advantages of possible match between character sets and match between pattern and a substring of character string, thus improving the search method as suggested by Marshall [Abstract].

***Response to Arguments***

Applicant's arguments filed on 1/27/2003 have been fully considered, but not persuasive, for examiner response, see discussion below:

43. At page 11, page 12, page 13, Claims 1,9,17,25, applicant argues 'generating the search index by assigning character sets..... at least this feature is not taught or suggested in Tateno, and Halstead alone or in combination with one another.

As to the above argument examiner disagree with the applicant because firstly, Tateno is directed to searching, retrieving text of structured document or record,[see Abstract], secondly, Tateno directed to search index, more specifically generates search index that containing for example words or phrases or character set(s) as detailed in col 5, line 18-23, thirdly, as best understood by the examiner search index corresponds to Tateno's fig 1, element 4, character set(s) corresponds to tags or words of a structured document as detailed in col 8, line 23-24. further noted that Tateno teaches 'evaluation of the characters of the search string and the plurality of pre-determined candidate character sets for the corresponding characters of the search string as detailed in [col 8, line 18-36, fig 1-3]. On the other hand Halstead details a system which including ' 'evaluating the search string by comparing each of the characters of the search string to a plurality of predetermined set of candidate sets' [col 6, line 54-63, col 7, line 48-61, col 9, line 40-50, col 10, line 20-40, line 63-67, col 12, line 65-67], comparing the characters of the search string corresponds to Halstead's matching of

stem characters in the prefix analysis as detailed in fig 18-19, predetermined set of candidate character sets corresponds to prefix morphology file, fig 18, element 132.

44. At page 11, Claims 1,9,17,25, applicant argues, invention is directed to generating the search index by assigning character sets to a code page.....

As to the above argument, examiner disagree with the applicant because Tateno teaches for example assigning character sets to a code page that corresponds to tagging documents for desired word or character set in a text using the tags as reference because search index comprising words as detailed in col 4, line 66-67, col 5, col 6, line 1-3. fig 2, col 8, line 59-67.

45. At page 12, Claims 1,9,17,25, 'a search index is not taught or suggested in Halstead.....

As to the above argument, as best understood by the examiner, Halstead is directed to identification of words in a text, specifically identification of words in japans text performing word breaking into character set(s) [see abstract], it is also noted thata Halstead specifically directed to content indexing for identifying stems that possibly identify word(s) or phases as detailed in fig 16. It is also noted that Tateno specifically directed to search index system as detailed in fig 3, element 4.

46. Claims 2,4-8,10,12-16,18,20-24,26,28-32 each dependent from corresponding independent claims 1,9,17,25, examiner applies above discussed argument(s).

Similarly, Claims 3,11,19,27, each dependent from one of the independent claims 1,9,17,25, examiner applies above discussed argument(s).

Claims 37,40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateno, US Patent No. 5778400, Halstead, Jr. et al. [hereafter Halstead], US Patent No. 5946648 in view of Marshall, WO 92/15067.

***Conclusion***

**The prior art made of record**

- a. US Patent No. 5778400
- b. US Patent No. 5946648
- c. US Patent No. 6321192
- d. US Patent No. 6141656
- e. US Patent No. 5778213
- f. WO 92/15067

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

- g. US Patent No. 6081804
- h. US Patent No. 5805881
- i. US Patent No. 5758361
- j. US Patent No. 6098071
- k. US Patent No. 5793381
- l. PCT WO 01/20500
- m. EP457707
- n. EP457705
- o. EP1056024.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is (703) 308-8538. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:30 PM Eastern Time. The TC2100's Customer Service number is (703) 306-5631.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax phone numbers for the organization where the application or proceeding is assigned are as follows:

703/746-7238	<b>(After Final Communication)</b>
703/746-7239	<b>(Offical Communications)</b>
703/746-7240	<b>(For Status inquiries, draft communication)</b>
(703) 308-6606	<b>(Art Unit)</b>

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-9600.

SC

  
Patent Examiner.  
March 25, 2003.

**SRIRAMA CHANNAVAJJALA**  
**PRIMARY EXAMINER**